THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 1104. SEPTEMBER 4, 1909. Vol. XXII

Local Anæsthesia.

We know that very many veterinary surgeons habitually induce local anæsthesia by hypodermic injection in everyday practice. Perhaps few have realised the scope the subject now affords for a good paper. Many practitioners have the experience requisite for the preparation of a paper covering the uses and limitation of local anæsthesia, the technical procedure, the various drugs employed, and their toxicology; and the meeting which did not hold men capable of discussing such a paper satisfactorily would be a very small one. The subject has extended considerably during recent years, but we have still much to learn regarding it.

Even the procedure, simple as it sounds, is not negligeable—to the beginner at least—for a certain amount of knowledge and care must be exercised to completely anæsthetize the field of operation. The choice of the drug, or combination of drugs, and the dosage, are more important and more debateable. Not very many years ago, cocaine was the only drug injected to produce local anæsthesia. Its efficacy is universally recognised, and so also is its toxicity, which has led to the introduction of a fair number of other agents as substitutes. Some of these are undoubtedly less toxic than cocaine, but generally an extensive trial proves them to be more toxic than they are at first supposed to be. A solution of adrenalin, again, is a most valuable adjunct to cocaine or its substitutes; but adrenalin itself is very far from being non-toxic. An absolutely ideal local anæsthetic has not yet been found, and possibly never will be. But we have ample material with which to attempt an approximation to the ideal, and it is necessary to estimate the value of any such approximation.

The first problem is to find the least toxic local anæsthetic preparation which is efficacious. That found, the next question is to fix its limits of safety, in order to fully estimate the range of its application in practice.

Many practitioners have answered these questions for themselves thus far—that they constantly employ local anæsthesia in minor surgery, and occasionally even for operations which scarcely come under that category. Probably the agent which the majority favour most at present is a combination of eucaine and adrenalin; but, though no one would call this mixture non-toxic, its limits of safety are not generally known. What is true of many other clinical veterinary subjects is true also of this one—there is ample experience within the profession, and there is a lamentable diffidence in imparting the experience to others.

ABSTRACTS FROM FOREIGN JOURNALS.

Hepatic Echinococcosis as a Cause of Chronic Tympany in Cattle.

An appreciation of the various causes of chronic tympany in cattle is of considerable importance to the practitioner. Weber, writing in *Die Deutsche Tierärztliche Wochenschrift*, mentions various conditions—as tuberculosis of the mediastinal and bronchial glands, and actinomycosis of the mediastinal glands—which may act as mechanical causes of chronic tympany; and describes two cases which he observed, in which hepatic echinococcosis played the same part.

Both cases were in cows, and the history and symptoms of the two were very similar.

In both cases, the symptoms appeared a few days after parturition. The tympany was remittent, and was most marked after feeding. The appetite was satisfactory, but rumination was irregular, and the secretion of milk was diminished. The temperature, the respirations, and the pulse were normal.

These symptoms not justifying slaughter, Weber treated both animals for four weeks, during which time their condition altered for the worse so much that slaughter became necessary.

Upon post-mortem examination, Weber found both the livers crammed with echinococci, and weighing respectively about 66lb and about 81½lb. The parasites were also found in the lungs of both animals.

Weber calls attention to these cases, as analogous ones have not previously appeared in veterinary clinical records.—*Annales de Méd. Vét.*

The Treatment of Traumatic Arthritis.

Urbain (*Journal de Méd. Vét.*) records the successful treatment of two cases of traumatic arthritis by means of solid nitrate of silver. The first case was of a ten-year-old mare which had been treated for a fortnight for arthritis caused by a kick upon the inside of the left hock. When Urbain saw her, the joint was swollen and very painful, and a purulent synovia was flowing from the fistulous wound. The temperature oscillated between 102·2 F. and 104 F.

The treatment adopted had been blistering at the commencement, then continuous irrigation, and finally injection of Van Swieten's solution (one part of perchloride of mercury in 900 of water and 100 of alcohol) into the fistula.

The animal was considered incurable, and slaughter had been decided upon, when it occurred

to Urbain to attempt treatment with nitrate of silver. A stick of nitrate of silver was introduced into the fistula, and kept in position by wadding and a bandage. The latter was removed the next day, and it was found that a sero-fibrinous coagulum had been formed, which partially obliterated the fistulous tissues. The dressing was renewed without touching this coagulum, a shorter stick of nitrate of silver being now introduced; and the dressing was repeated every two days, care being taken each time not to remove the fibrinous mass which had formed. After eight days the coagulum completely occluded the fistulous orifice; and, from this time forth, the temperature fell, the appetite improved, and no further escape of synovia took place. The nitrate of silver was then discontinued, and granulation was controlled by means of burnt alum, the wound still being protected by wadded bandages. On the fifteenth day, the mare began to bear weight on the limb; the joint had diminished considerably in size, and the local pain had almost disappeared. On the twentieth day she was taken from the slings, and at the end of a month she was given brief walking exercise twice daily.

The hock remained enlarged, especially at the internal aspect, and firing in superficial points was practised with the best results. Finally, the mare returned to her work (military service) with nothing in her action to indicate that she had had so serious an accident. The only legacy of the arthritis was the formation of a rather large exostosis about the seat of spavin.

The second case was of a ten-year-old horse, which had been treated for twelve days for a penetrating wound of the left hock, caused by a fork. When examined by Urbain, the animal presented all the symptoms of an established arthritis, was very emaciated, and in great pain.

In this case also slaughter had been decided upon; but by Urbain's advice nitrate of silver was employed in the same manner as in the first case. Considerable improvement was manifest five days after the first dressing, and on the twentieth day following the case could be considered cured.

Urbain points out that, in both cases, signs of improvement appeared with the formation of the sero-fibrinous coagulum; and that the improvement became confirmed as soon as the coagulum completely obliterated the fistulous tract and excluded the articular cavity from the exterior. The coagulum was therefore an indispensable element in the cure. —*Annales de Méd. Vét.*

A Case of Vesical Lithiasis in the Dog.

Bouffanais (*Journal de Méd. Vét.*) records the following case of a three-year-old bull-dog. Three months since, the animal had suffered from cystitis, which had almost completely disappeared. He was again brought for examination, with the history that he had not urinated for three days, and was refusing all food.

The abdomen was distended as in a case of ascites. By palpation (which was very painful to the dog) the anterior pole of the bladder could be distinguished projecting beyond the pubis and invading the posterior part of the abdominal cavity.

Catheterisation was attempted, and the catheter penetrated the first portion of the urethra quite easily. Then slight resistances were felt at some places, but finally the instrument easily passed the ischial curve and the neck of the bladder. The wire being withdrawn, the urine flowed abundantly from the catheter for a few minutes, then flowed drop by drop, and finally the flow ceased altogether, although distension of the bladder was still evident upon palpation of the abdomen. The catheter was withdrawn, and the extremity which had penetrated into the bladder was found to be occluded with gravel. This being removed, the catheter was again passed with the same result, the urine flowing very freely at first, and then ceasing. The catheter was withdrawn and the gravel removed from it in this manner four times before the bladder was completely emptied.

The urine was clear, without any trace of blood. Upon analysis, it was found to contain a rather large proportion of albumen.

The dog remained unable to urinate, and during the following days catheterisation was again resorted to, but it soon became impossible to pass the instrument. The animal became distended; the prepuce was œdematous; symptoms of uræmic intoxication appeared, and death ensued.

At the autopsy, the bladder was found greatly distended. It contained a litre and a half (about 2 5/8 pints) of a red-brown turbid liquid which, when placed in glasses, formed a deposit presenting two distinct layers. The lower layer consisted of coarse gravel; the upper one was formed by thick mucus and finer gravel.

Both kidneys were affected by hydro-nephrosis. They were distended by a clear limpid liquid, which did not yield any deposit. The pelvis of each kidney was large, the calices were distended, and the ureters were slightly dilated.

The wall of the bladder was very thin, was congested, and contained coarse gravel within its folds.

The prostate was slightly hypertrophied. A rather large mass of gravel was found completely obstructing the lumen of the urethra at the base of the os penis; and the portion of the urethra above this obstacle was very dilated. The glans penis was very congested. The mucous membrane of the prepuce was inflamed and œdematous.

The author thinks the case interesting, not so much for the vesical lithiasis itself, as for the complications (as hydro-nephrosis and balanitis) which it produced, and the uræmia which appeared as a sequel.—*Annales de Méd. Vét.*

W. R. C.

[Another point of interest in this case is that it certainly supports the view that distension alone, without external violence, will not cause rupture of the dog's bladder.—Transl.]

Legal Notes.

By a recent law passed by the German Parliament, all veterinary surgeons, castrators, and meat inspectors have to notify to the V.O.H. of their

district, the following diseases: Anthrax, Quarter-evil, Rabies, Glanders, Foot-and-mouth, Bovine Pleuro-pneumonia, Sheep-pox, Dourine, Horse-pox, Cow-pox, Mange of solipeds, Sheep-scab, Contagious pneumo-enteritis of swine, Swine-fever, Swine erysipelas, Fowl cholera, Bovine tuberculosis when clinically apparent.

The French Minister of Agriculture has prohibited the importation into or transit through France of fresh meat derived from horses, asses, or mules, on the ground that it is impossible to judge of the health of horseflesh without seeing the animal alive, and therefore the order is necessary to safeguard the public Health.—*La Clin. Vét.*

F. E. P.

NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

The half-yearly meeting was held on Saturday, August 28th, in The Bonaccord Hotel, Aberdeen. There were present: Messrs. Morrison, New Deer (President); Anderson, Keith; Cumming, Culter; Hepburn, Aberdeen; Ironside, Cluny; Murray, Cullen; Marshall, Aberdeen; McPherson, Huntly; McVean, Craigellachie; Sievwright, Tarland; Watson, Aberchirder; McBryde, Strichen; Howie, Alford (Hon. Sec.) Visitor: Howard, Nairn.

Apologies were intimated from Messrs. Peddie, Gunn, Thomson, and Skinner.

The minutes of last meeting were taken as read.

The HON. SEC. explained that the reason of the meeting being held in an hotel was that on his own responsibility he had changed the place of meeting, so as to allow the members to have a better opportunity of inspecting the Veterinary Specialities of Messrs. Parke, Davis and Co., which were displayed in a room adjoining the meeting.

Mr. ANDERSON, while quite approving of the Secretary's action for the reason given, moved that the meetings in future be held as formerly in the North of Scotland College of Agriculture, as he considered that the privilege of doing so was an honour to the Society. This was duly seconded and agreed to.

Mr. E. C. HOWARD, Nairn, was proposed as a member of the Society on the motion of Mr. Howie, seconded by Mr. Sievwright.

A letter from the Secretary of the South Durham and North Yorkshire V.M.A. with reference to the payment of veterinary surgeons attending race meetings in an official capacity was read and discussed. The Secretary was instructed to reply that as no race meetings were held in the north of Scotland the Society could take no action in the matter.

A letter from the Secretary of the Central V.M.S. enclosing a resolution passed by that Society regarding the proposed Milk and Dairies Bill and the Tuberculosis Order of the Board of Agriculture was read and discussed. The action of the Central Society was approved.

AMALGAMATION OF VETERINARY SOCIETIES.

Letters from Prof. Gofton with reference to above was read, and discussed. It was agreed that at present there was no scheme before the profession on which to come to a finding, but as Professor Gofton had promised to come north in October and explain the scheme, it was proposed by Mr. Anderson, and seconded by Mr. Sievwright that a special meeting be held on Oct. 2nd in order to meet Prof. Gofton and discuss this important subject. Unanimously agreed.

A discussion on "Grunting in Horses," which was to have been opened by Mr. Skinner, was postponed until next meeting, on account of the unavoidable absence of that gentleman.

THE ACTIONS AND USES OF A FEW DRUGS.

By H. F. McVEAN, M.R.C.V.S., Craigellachie.

Mr. Chairman and Gentlemen,—In introducing to your notice for a few minutes the actions and uses of some of our common drugs, I have no intention of teaching you anything new, or of claiming any as a certain specific. If a friendly exchange of opinion is brought about I will be satisfied.

My experience of drugs as years pass on—and I think it will be the opinion of most of us here—is that few drugs are required to be quite efficient in the treatment of disease. My list of drugs is much smaller now than when I commenced practice. If our pharmacy contains a few good anodynes, purgatives, stimulants, and antiseptics we will be quite capable of facing our daily work with good results. It is essential that we should stock a few preparations with a high colour and pleasant aroma—which have often most marvellous results. Often we find cases which we know if given a little time will recover without medicine, but the average client is not satisfied unless he gets "something in a bottle." The simple advice to apply a little cold water, give rest and a change of diet is not enough. The popular opinion that medicines, and especially patent medicines, possess secret and wonderful powers is hard to kill, and we are looked upon with suspicion if we attempt to combat disease without their use. Can we blame the average client when we read the advertisement pages of our agricultural papers or visit our cattle shows where patent nostrums and cure-alls are boomed and advertised regardless of expense? He has the impression that for every disease there is a remedy. These ideas will take a long time to break down, and we, in self defence, in order to obtain a just fee for our professional skill, are compelled to prescribe some harmless remedy for a client who sees value for money only when given in some tangible form. I am glad to say there are some who appreciate the importance of hygienic conditions and good nursing.

Anodynes. The highest ambition of us all is to alleviate pain, and the drug which has stood the test of time and still holds its own is Opium. Percival called it the sheet-anchor of the veterinary surgeon. It contains many alkaloids, the chief of which for our use is morphia. In small doses it is stimulant, in excessive a narcotic poison, and in medium doses anodyne, whether used internally or externally or hypodermically. It is one of the most efficient drugs that we possess for relieving nervous irritability and spasms if administered internally in the form of tincture. It first stimulates, then soothes, and finally paralyses the nerves—by this means relieving pain. Combined with Acetate of lead its soothing and sedative effects are also well marked when applied externally in cases of inflammatory œdema, sprained tendons, and joints.

Internally its effects in controlling pain and spasm of the intestines have been recognised for ages, and it forms the basis of most of our draughts for colic, enteritis, diarrhœa, and dysentery. Horses display considerable differences in the tolerance of the action of this drug. A well bred horse with a full dose is brought under the anodyne action of the drug much more rradily than an underbred one. The ox is not very susceptible, and will take as much as one ounce of the powdered drug without showing any symptoms of poisoning. These symp-

toms being slight stimulation followed by dullness, but no prostration. This dose is larger than I would consider safe in every-day practice; still, I can call to memory a 14 days old foal suffering from abdominal pain being given by a farmer six drams of Tincture in a pint of milk without any bad result, but rather, as the farmer expressed it—an effectual cure.

There are three preparations of Morphia—the hydrochlorate, the acetate, and the sulphate. The hydrochlorate is the most desirable for hypodermic injection; it contains more of the alkaloid, it is more soluble than the sulphate and nearly as soluble as the acetate.

Morphia lessens reflex activity and paralyses both striped and unstriped muscular fibre. It acts as a decided anodyne—a full dose given alone to an animal already exhausted with pain depresses and weakens the heart, and for this reason should always be given combined with atropine. The combination of the two drugs is more lasting in its action: the atropine acts as a stimulant to the respiratory centres, and combats heart spasm.

The majority of painful diseases yield to this injection, but there is little benefit derived from it in cases of twist of the bowel. These cases are usually hopeless, but the practitioner would often think he had done something if he could only relieve the sufferings of the poor brute. Morphia should, in the form of hypodermic injection, precede everything else in the treatment of colic, enteritis, peritonitis, and other acute painful conditions. It is also highly beneficial in cases of acute laryngitis, and is very helpful in cases of difficult parturition in lessening the labour pains. Care should be taken that the drug is properly dissolved, because if not absorption is very slow and no results will be got. It is remarkable the rapidity with which a well prepared hypodermic injection is taken up by the circulation. Its action commences in from three to four minutes: this can be verified in the case of Atropine by its effect on the pupil.

Chloral Hydrate I place second on the list of anodynes, but I prefer it, in many cases, to opium and its derivatives. It was discovered in 1836, but not much used in veterinary practice until about the seventies. It is extremely distasteful to horses on account of the hot, burning sensation it produces in the mouth, and should always be given freely diluted with water. It is more rapid in its action when given in water than with gruel or milk.

Chloral possesses all the good properties of opium with none of the objectionable ones. In medicinal doses it does not depress the heart nor constipate the bowels, and for those reasons it has been extensively substituted for opium. As an anodyne, doses of a half to one ounce and even more can be given with absolute safety. Excessive doses produce profound slumber, complete insensibility, shallow breathing. The pulse becomes small and indistinct, the pupils contract, and death results from reduced temperature and paralysis of the heart. It is a useful ingredient in colic mixtures, or for almost any painful disease of the bowel.

Eserine or Physostigmine is the alkaloid of the Calabar bean, and has proved itself most useful in cases of stoppage of the bowel. In medicinal doses it acts by increasing the peristaltic action of the bowel by direct stimulation of the muscular fibres in the coats of the stomach and bowel; it also increases secretion. Excessive doses cause paralysis of the diaphragm and death from asphyxia. It is contra-indicated in enteritis and twist, and should be given to old animalsi n small doses only. I use this drug only in that condition known as impaction of the colon, for which I have found it a safe and speedy remedy. I inject hypodermically from 1 to 1½ grains of Sulphate of eserine dissolved in from 40 to 60 minims of warm water. The first symptoms of its action are that the pulse and respirations are accelerated and pain is increased, patches of sweat break out over the body, and the animal soon commences to strain as if to get rid of fæces. In from half to one-and-a-half hours evacuation takes place. I have seen five free evacuations within an hour from the first one. The normal bowel function soon becomes restored after the cause is removed. Should the pain continue after several free evacuations, a one ounce dose of Chloral hydrate is the best antidote.

Eserine is also very useful in impaction of the rumen and omasum in cattle, and in choking in the horse where it is so difficult to pass the probang.

This short paper is put together in a rough and ready way, and for this I must apologise; I trust I may be able to learn something from you to-day regarding your experience of those drugs.

Discussion.

Mr. Cumming expressed his thanks to the essayist, and said that he considered Opium one of the best of drugs, but that he was using less and less of it every year. In alimentary diseases he considered that it did a deal of harm by masking the symptoms. It pleased the client for a time, but the progress of the cure was too slow. He got better results by using Carbonate of ammonia and Nux vomica, and allowing the patient to suffer a little pain for a time. Chloral he could not say much about, and he had never used Eserine. He had used Barium chloride, but regarded it as very violent in its action.

Mr. Sievwright agreed with the essayist on many points, but with reference to Opium he had been discarding it for years in favour of Chloral and stimulants where indicated, and with better results. Eserine he could not talk about with authority. Morphia was not of much use in his hands except in big doses.

Mr. Anderson agreed with Mr. McVean when he said that the longer you are in practice the fewer drugs you use. Morphia for colic cases in his hands has been disappointing: it did little to allay pain, but seemed to have an exciting effect on horses, causing them to madly perambulate the box for hours and ultimately die from sheer exhaustion. Eserine, if the case is properly diagnosed, is excellent. Chloral he regarded as one of the best anodynes in cases of abdominal pain in cattle. He said, "you can hardly give them an overdose." He instanced a calf which got four drams without ill effect.

Mr. McPherson regarded the paper as ideal, as it left so much room for discussion. There were so many ideas about the action of drugs in the hands of different observers. He regarded young foals as particularly susceptible to the action of Chloral. He had known a four days old foal to succumb to a two dram dose. For diarrhœa in calves (white scour) he had found Salicylate of soda and sweet spirits of nitre to excel anything he had tried. He had no faith in morphia.

Mr. Hepburn thanked the essayist for his paper, but with reference to Opium he could not endorse his views, for he hardly kept it in his pharmacy. He pinned his faith on Chloral as an anodyne. He sometimes used Belladonna. He had used a lot of Eserine in colic cases, but it was of no use in cases of twist. He did not use Morphia—Chloral was his favourite.

Mr. Watson considered Eserine a good drug, but he liked Arecoline hydrobromide better. It was particularly useful in impaction of the rumen in doses up to three grains. He regarded Chloral as better in every way than Opium.

Mr. Marshall thanked the essayist, and said the paper opened up a wide field for discussion. The action of Tr. opium he regarded as not what it was usually represented to be. He used both Chloral and Eserine extensively, and with success—the latter in cases of im-

paction of the bowel in horses caused by eating what was known as "chop." He did not now use Morphia. He related a case which he had had only the day before. At first he thought it to be twist. He treated it with doses of Pilocarpine hydrochlorate every four hours, and was pleased to say with complete success. It was a very bad case and he had prognosed death.

Mr. HOWARD had no success with Eserine, but found Arecoline Hydrobromide very useful. He used the latter in cases of tetanus and found it better than Aloes.

Mr. MCBRYDE said that in his opinion nothing was better for allaying pain than Tincture of Opium. He did not believe in too much of it in cases of colic. He gave physic first, but found that if he gave large doses of Opium, perhaps to please his client, that it counteracted the effect of the physic. He found Belladonna in one dram doses better. He does not use Chloral extensively. He got good results from the use of Eucalyptus and turpentine. For scour in calves he used with good effect Salicylic acid and Succus taraxaci. He was very fond of Tinct. nucis vom. in cases of torpid bowel.

Mr. HOWIE said he had almost discarded Opium and its derivatives as an anti-spasmodic. At one time he used gallons of it, now one pound lasted a long time. He pinned his faith on Chloral. He found it particularly useful in cases of hysteria or delirium in cattle after calving: it acted like a charm. He did not use Morphia on account of its effect on the brain when given in large doses. He had great faith in the stimulant treatment of abdominal cases (Ammon. carb. and nucis vom.) He had little experience of Eserine, but had used Arecoline with good results.

The CHAIRMAN said he was pleased that they had had such a good discussion. All the members seemed to agree that Opium had had its day. Chloral he regarded as one of the best of drugs: in tetanus he thought it was his sheet-anchor. He thought that Tetanin had no curative power unless used in conjunction with Chloral. In cases of colic the best treatment was to remove the cause, for which he gave Aloin and turpentine. He also believed in allowing a horse to roll when in pain, as he believed it to be one of Nature's remedies.

Mr. MCVEAN thanked the members for their friendly criticism of his paper, and was glad that so many of them seemed in agreement: with reference to Eserine, he thought it best to give a dose of pilocarpin three-quarters of an hour before injecting the Eserine. Morphia should be given in conjunction with Atropine.

The following office bearers were elected for the ensuing year:—

President.—Mr. WM. SKINNER, Oldmeldrum.

Vice-Presidents.—Senior: Mr. C. BAXTER, Elgin; Junior: Mr. WM. MCPHERSON, Huntly.

Hon. Sec. & Treas.—Mr. G. HOWIE, Alford.

Committee.—Messrs. THOMSON, MARSHALL, and HEPBURN, Aberdeen; ANDERSON, Keith; CUMMING, Culter; MARSDEN, Banff; CRABB, New Aberdour.

GEORGE HOWIE, *Hon. Sec.*

MUCILAGE OF LEEKS is a remedy that was recorded by Aristotle, but it has been forgotten except by a few. The mucilage is prepared by boiling leeks until the acrid volatile oil has been expelled, and then evaporating the expressed decoction to the consistence of a mucilage. This has an emollient action which is exceedingly grateful in cases of smoker's throat and pharyngitis, whether acute or chronic. It is also valuable in conditions of catarrh in the bigger bronchial tubes.—*The Hospital.*

THE RESULTS OF NERVE DIVISION.

In *Brain* (vol. xxxi, p. 324 et seq.) Dr. Head and Dr. Rivers record in detail the sensory changes observed during a long period of recovery following the excision of short pieces of the radial and musculo-cutaneous nerves near the elbow. Dr. Head had decided to make himself the subject of observation in order to obtain reliable data, owing to the difficulties in the way of eliciting the required information from patients suffering from accidental nerve division. Such untrained subjects do not possess the necessary power of introspection to interpret what they feel, nor can they afford the time necessary for an extended series of observations.

The operation was carried out by Mr. Dean, assisted by Mr. Sherren, on April 25th, 1903. On the morning after the operation the radial half of the back of the hand, the dorsal surface of the thumb, and extensor aspect of the forearm were insensitive to stimulation with cotton-wool, pricking with a pin, and all degrees of heat and cold. The area insensitive to cotton-wool extended slightly further towards the ulnar aspect of the back of the hand than that of cutaneous analgesia, and between the two lay an area of hyperalgesia, but on the anterior surface of the forearm the loss of sensation to prick and to cotton-wool corresponded exactly. The most striking fact was the preservation of deep sensibility of the whole of the affected area to touch with the finger or a pencil, so that an unskilled observer would have overlooked the presence of cutaneous anæsthesia.

Deep sensibility is, in fact, independent of the cutaneous nerves, and travels most probably by those afferent nerve fibres which, as Sherrington had shown, lie in the muscular nerves. This discovery was at the time quite novel, but, in view of Head and Sherren's previous work on deep sensibility, not entirely unexpected. The recovery of other forms of sensibility returned gradually, though not simultaneously, over the whole affected areas; thus 56 days elapsed before the thumb responded to a prick, 86 before it responded to cold, and 161 before it reacted to stimulation of its hairs, while sensibility to heat was later in its return (166 days), and, like sensibility to cold, was found to be associated with definite spots.

The last form of sensibility to return was light cutaneous tactile sensibility, and its return possessed such characteristic features that it must be regarded as a separate variety of sensibility; moreover, there was a small area from the first that possessed this form of sensibility, but was insensitive to pain, cold, and heat. It possessed, however, deep sensibility.

To summarize the results, we may say that from the first there was present deep sensibility; then the stage of protopathic sensibility; and, finally, epicritic sensibility returned.

Protopathic sensibility implies response to heat and cold over heat and cold spots (but there is no reaction to temperatures between 26° and 37° C.), response to tactile hair sensation and hair pulling, and to pricks. The tests were carried out by Dr. Rivers, Dr. Head keeping his eyes closed during the examination; every influence that might disturb the passivity of the subject had to be eliminated, and Dr. Head was never allowed to know by suggestion what was being done or to know whether his answers were correct or otherwise. All his answers were the direct result of introspection exercised during the period occupied by the application of the stimulus, for it was discovered that like most people Dr. Head is a strong visualizer—that is, while he can reproduce the image of a thing seen with such accuracy that it can be searched for details, he cannot reproduce any other sensory impression in the same way.

The methods of examining cutaneous sensibility and painful spots, etc., are fully described in the paper. The complete analysis may be studied under the subdivisions of deep, protopathic, and epicritic sensibility, and a short account of the more definite results is of interest, not only owing to the new conceptions to which the reader is introduced as to the nature of sensation, but because it shows that these conditions are real entities and not stages in recovery, gradually merging into normal sensibility.

Deep sensibility requires careful distinction, as already mentioned, owing to the liability of its being mistaken for cutaneous sensibility. It consists in the power of appreciating moderate pressure, roughness of an object, and localization of a touch sufficiently heavy to cause a sensation. Head and Sherren had previously shown that the recognition of passive movements was possible when the nerves to deep parts were alone intact. When deep sensibility is alone present excessive pressure will cause pain. Discrimination between the two points of a compass is impossible if they are applied to the skin simultaneously; there is no sense of shape on contact with an object, nor is there any power of appreciating differences of temperature. It may be readily shown that the pain on heavy pressure is due to deep sensibility by pinching up a fold of the skin, when no sensation is felt.

The study of protopathic sensibility forms one of the most interesting chapters of the whole paper. As regards painful cutaneous stimuli, the back of the hand became sensitive eighty-six days after operation. The minimal stimulus or threshold as measured by von Frey's hairs was higher at first than over a corresponding area of the normal hand, but diminished after a considerable period, eventually becoming slightly less than normal, but there was no preceding sense of contact with a sharp point. Certain spots called pain spots can be mapped out over a protopathic area, but they are very numerous, increasing in number with the intensity of pressure. The pain produced is diffuse, and referred to distant parts of the protopathic area—for example, from the hand or wrist to the forearm—and it is more unpleasant, and was usually said to be more painful than the pain produced over normal skin, although the minimal stimulus required was, as already mentioned, not greater than in the case of normal skin. Sensibility to heat and cold was found to be dependent on and limited to the area of heat and cold spots. The former are less numerous than the latter, and both are present in normal skin, but heat and cold sensibility in normal areas is not limited, to these spots, so that we may conclude that temperature sensibility is ordinarily dependent on two varieties of end organs. The cold spots are, at any rate, specific, inasmuch as they can be stimulated to give a sensation of cold by the application of heat at a temperature of 45° C. As in the case of pain, stimulation of heat and cold spots is more intense than such stimulation in normal tissues, but nevertheless the limits are more restricted, for no sensation of temperature results in protopathic areas by application of rods between 26° C. and 37° C. Radiation and reference are the rule, just as for pain sensibility. In normal skin the areas between the protopathic temperature spots are sensitive to a much wider range, but require the application over a large area, such, for example, as a test tube would afford. Normal skin exhibits a wide range of adaptability to heat or cold, so that, after placing the hands in warm water, a test tube of water that under ordinary conditions gave a sensation of heat now feels cold, and *vice versa*. This adaptability is practically entirely wanting in the case of protopathic areas. Reference has already been made to another feature of the protopathic condition, namely, hair sensibility, or reaction to pulling the hairs and stroking hair-clad parts with cotton wool. This form of sensibility is quite independent of ordinary tactile sensibility, and stroking with cotton-wool produces no sensation after shaving the hair. It appears later than sensibility to prick or application of cold; it presents the peculiarities of protopathic sensibility in its being diffused locally and referred to distant parts. Its independence of ordinary tactile sensibility is proved from the circumstance of its disappearance when the skin is first shaved, and then stimulated with cotton-wool. The features of protopathic sensibility are exactly reproduced in the skin of the normal glans penis, a fact which cannot be altogether a surprise, for we must all be more or less familiar with its insensibility to light touch; but we owe to Dr. Head the demonstration of the other features of protopathic sensibility. We may conclude from this fact, and also from the occasional persistence of protopathic sensibility for many years in an area of recovery, that this form of sensibility is due to a special mechanism in the skin, and not to a defective restoration of the mechanism of sensation.

The return of epicritic sensibility first made its appearance 366 days after the operation in the proximal part of the farearm, but the improvement here as elsewhere was apt to recede when the weather became cold, or when the part was artificially cooled by immersion or other means. It required 567 days for epicritic sensibility to return to the greater part of the hand; but even after five years there remained a portion of the back of the hand between the knuckles of the index and middle fingers insensitive to all epicritic stimuli; here the threshold for pain was identical with that over a normal area, but it was much more unpleasant, it radiated widely, and was localised in remote parts.

Epicritic sensibility consists in the recognition of the "pointedness" of a needle or pin, which involves the power of distinguishing the point from the head, response to temperature between 26° and 37° C.; spacial discrimination as tested by the simultaneous application of two points of a compass, and diminished pilomotor reflex (which is exaggerated in the protopathic stage). The return of epicritic sensibility inhibits the tendency to refer stimuli, to remote parts, and introduces less vivid sensation restricted to the immediate neighbourhood of the point of contact.—*British Medical Journal.*

ON THE CONNECTION BETWEEN CATTLE FAIRS AND TUBERCULOSIS IN IRELAND.

By J. Darley Wynne, M.B., D.P.H., Clonmel.

Our views on the causation of tuberculosis, especially of pulmonary tuberculosis, have undergone considerable modification in recent years.

Practically up till the close of the nineteenth century the "inhalation theory" held the field, and it was believed that pulmonary consumption was solely caused by the inhalation of tubercle bacilli adhering to minute particles of dried sputum from the lungs of consumptive human beings. Those who believed in a distinct type of bovine tuberculosis were satisfied to confine the operations of this type of bacillus to cases of abdominal tuberculosis, chiefly occurring in children.

But there were many observers who were not satisfied with this theory, and the researches of Calmette and Guèrin in France, von Schering, Oberwath, and Rabinowitsch in Germany, and Schroeder in America, to mention a few among the host of experimenters on this subject, have shown that the lungs can be affected with tuberculosis through the medium of the intestinal tract, the bacilli passing through the stomach and intestines without causing any disease of those organs.

I do not intend to weary you by repetition of facts and experiments with which you are all no doubt well

acquainted. I only wish to emphasize the added importance which bovine tuberculosis has assumed owing to all these recent researches. The experiments of Dr. Schroeder of the United States Department of Agriculture have drawn special attention to the infectiveness of the fæces of cattle. He points out that that cows do not suffer much from intestinal tuberculosis, but that as they do not expectorate, when they suffer from pulmonary tuberculosis, the tubercle bacilli pass out in their fæces.

Dr. Schroeder has published several interesting pamphlets dealing with his experiments, and the following quotation is an abstract of a paper read by him at the International Congress on Tuberculosis held in Washington, Sept., 1908.

"Tubercle Bacilli in Cows' Fæces.

Dr. E. C. Schroeder, of the Department of Agriculture, Washington, read a paper on his investigations, showing that about 40 per cent. of cattle apparently healthy, and known to be tuberculous only because they had reacted with tuderculin, intermittently passed tubercle bacilli with their fæces. When a number of such cattle were kept under continued observation, the percentage that expelled tubercle bacilli per rectum was found to double in about eighteen months; and both the frequency with which bacilli occurred and the number found in individual animals also showed an increase. Among twelve cows, bacilli in the fæces were at first found in five, but before the end of two years the number had risen to ten. The proof that the acid-fast bacilli demonstrated by microscopic examination actually were tubercle bacilli was established by (1) producing fatal generalised tuberculosis in guinea-pigs inoculated with the fæces; (2) causing fatal generalised tuberculosis in hogs by feeding them with the fæces; and (3) causing fatal generalised tuberculosis in guinea-pigs by inoculating them with milk soiled with small quantities of such fæces, and with butter made from such soiled milk. Pure cultures of tubercle bacilli isolated from the infected guinea-pigs caused fatal tuberculosis in cattle on subcutaneous inoculation. Dr. Schroeder further observed that with rare exceptions commercial milk could be shown on examination to be contaminated with cows' fæces, and he concluded that, considering the wide prevalence of tuberculosis amongst cattle, the presence of fæcal material in milk was frequently associated with the presence of virulent tubercle bacilli. Cream and butter were also exposed to this danger."

Dr. Schroeder's conclusions from his experiments prove the contamination of milk and milk products by fæces of tuberculous cows. I think it is generally admitted now that such contamination is a very real danger. But I believe that other articles of food also may be contaminated by the fæcal evacuations of cattle.

This brings me to the subject of this short paper, namely, the connection between cattle fairs in Ireland and the prevalence of tuberculosis. I have not noticed any allusion to this subject in all the flood of literature that has been poured out since the inauguration by the Countess of Aberdeen of the campaign against tuberculosis. In a paper on tuberculosis in the South of Ireland which I wrote, and published in *The British Medical Journal* on May 28th, 1904, I referred to these cattle fairs as a possible cause of the excessive prevalence of tuberculosis in Ireland. The experiments proving the existence of tubercle bacilli in the fæces of cattle confirm my opinion as to the danger of the present system of fairs. This system must be well known to most Irish medical men, but may be a revelation to some of our brethren across the Channel. I am not aware whether the march of civilisation and progress has succeeded in stamping out the street cattle fairs in the North of Ireland, but I know that they are almost universal in the South.

Once a month these fairs are held in the principal thoroughfares of Clonmel as well as in other towns. "From early morn to dewy eve" the streets are a struggling mass of cattle and humanity, and the air resounds with the lowing of cows, and the shouting of men. The shops, in many of which food is exposed for sale, are kept open, though their doors are usually barricaded to prevent the actual incursion of cattle into the premises, but no barricades can prevent the bringing in of filth and fæces on the customers' boots and clothes. Hundreds of cows are herded in the streets, as I have said, for most of the day. They are constantly passing fæcal evacuations, which, if Dr. Schroeder's experiments are correct, must contain a large number of tubercle bacilli. Even by the most careful cleansing and disinfection, it would be impossible to banish every one of these bacilli. Knowing full well the habits of the Irish lower orders, it can be no exaggeration to say that after every fair day there must be millions of tubercle bacilli floating about in the dust of the atmosphere, ready to fasten themselves in suitable soils, and thus aid in the spread of the great white plague. Whether we believe that consumption is caught by inhaling the germs of the disease or through the medium of germ-laden food, we can hardly shut our eyes to the fact that these cattle fairs provide a plentiful supply of those germs.

I think I have said enough to establish a case against the holding of cattle fairs in the streets of our towns. The remedy is simple—namely, the relegation of the cattle to properly constructed fair greens outside the towns, where the surface on which the cattle stand should be concreted, and the excreta thoroughly disinfected after the conclusion of every fair. The carrying into effect of this remedy may not, however, be so simple, as any proposal of the kind has always met with the strong opposition of the local publicans, who reap a fine harvest every fair day owing to the prevalent custom of clinching all bargains with a drink.

The problem, however, should not be insuperable, and, in my opinion, is one which ought to be tackled at once by suitable legislation.—*B. M. J.*

Rearing and Training Hunters.

We are indebted, says *The Farmers' Gazette*, to some leading Irish breeders of hunters for interesting particulars as to the methods favoured by them in the successful raising of young hunting stock, a subject which is naturally of considerable interest on the eve of the great Irish Horse Show at Ballsbridge, in which hunters constitute such an important future. Realising that it would doubtless prove most instructive to our readers to learn the various practices followed by prominent Irish horse breeders, we communicated with some well-known authorities, and suggested to them the appended questions:—

1. The month the foals are usually born in.
2. The age at which they are generally weaned.
3. The treatment and feeding during the first year.
4. The time and method favoured for breaking and training."

From the answers published in *The Gazette* we quote the following:—

Mr. W. T. Trench: The best time for the mare to foal is between the middle of April and the middle of May, when there is a bit of fresh, green food to stimulate the flow of milk in the mare, and when the sun has some power, so that both mare and foal can be out in the air as much as possible. For this purpose a field ought to be chosen which has sufficient shelter from the wind. I may add that the risks of foaling are greatly diminished if the mare is turned out in a field, irrespec-

tive of weather, and left entirely to herself, instead of being shut up in a box and watched, no matter how carefully.

October is the best month for weaning the foal. Previous to that time, and while the foal is still with the mare, it ought to be taught to feed on oats or bran. This will prevent its losing ground when separated from its dam.

It is better during the first winter to house the foal at night, giving it plenty of soft food, such as carrots, mangels or swedes, in addition to a moderate allowance of hay, with oats or bran. Of course linseed (boiled to a jelly) is a useful addition, given sparingly. The foal cannot have too much fresh air in the day time. The cold and rain of winter will do him no harm if well fed, but will brace and strengthen him. The more room he has to stretch his legs the better. A pasture with a rough, uneven surface and broken down stone gaps will make him look out and teach him where and how to place his feet.

After the first winter the colt will be healthier and stronger by being never housed. He will do quite well running out with cattle and getting an allowance of hay along with them. He ought to have a good stretch of pasture, not necessarily rich land, but with good shelter and a dry soil resting on limestone.

I am inclined to think that every young horse ought to be broken while he is a year and a half old to carry a boy and draw something or other, such as a light cart. No attempt should be made to give him a mouth or to do more than familiarise him with saddle and harness.

Mr. C. Arthur Webb: My foals are generally born in April or May, and weaning takes place in October, or earlier if the mare is working on the farm.

During the first year the foal gets nothing but the dam's milk, on grass till weaned, but after that it is put on good grass and fed liberally on oats and bran till grass becomes plentiful the following spring, when hand-feeding is stopped. Good hay of course is provided when grass is scarce. Two-year-olds and three-year-olds get no hand-feeding, unless they are very thin for any reason.

We usually bring in the horses as three-year-olds to break and train, and when they have been tied up with breaking tackle for a week or two, are backed and ridden quietly by slow degrees. They are never hurried in their education.

Mr. Christopher J. P. Bannon, D.L.: April is the month in which my foals are born here, and they are weaned at the age of five months.

During their first year they have a run on good, sound pasture land, well watered and convenient; they are put into a roomy box at night, and get about two pounds each of crushed oats night and morning and first crop hay *ad lib.*

I certainly think the best time to begin training is when the foals are weaned. I usually house them for a few days then and put halters on them, and afterwards when let out to pasture call them up each evening with their corn, and handle them in the stable a bit when they come in. We find very little difficulty afterwards in training them when managed in this way.

Mr. R. Craig: The months in which my foals are born are April and May. They are not wanted too early, as if I have a mare foaling too early it means losing her time, and she cannot help in with the crop on the farm. But, as against this, early foals are, of course, always the best.

The age I wean my foals at is six to seven months. It is quite long enough to leave them with the dams. I give the mare oats on the grass all the time the foal is running with her. It learns to eat oats in this way, and then, when it is weaned, I give it a pint of oats with a little bran once a day, with good hay, and a small mash of boiled turnips and a little bran at night. I believe in feeding my foals liberally; all during the winter I put them on good lea grass, with a little corn, say a quart to a yearling and two quarts to a two year old, and so on.

I never break my colts till coming four years old, and then I put them into the hands of a good trainer.

Mr. D. F. Casey: I try to arrange for my hunter mares to foal as early as possible in the new year, and generally have them foaling in March and April.

About the end of September I wean the foals, and at that time have them eating a little crushed oats.

In their first year they run into box stalls by night, and during the winter months are given about 3 lbs. of crushed oats with pulped mangels or boiled turnips night and morning. Of course they have hay supplied in their stalls, and they run on the fields by day.

I commence to break my horses generally in the January of the year in which they are four. Some I commence to break a month or two earlier, and others I may leave till the September of the same year, according to the animal.

Mr. Joseph McDermott: It is in the months of April and May that foals are usually born here, and in or about the first week in October the weaning takes place.

When taken off the mother they are put into the stable, given a little bran mash with about one pint of boiled flaxseed on it, for about two weeks. Then they get one pound of bran and one pound of bruised oats for one month, and afterwards the oats is increased to two pounds for the second month, and so on until they get to five pounds of oats and one pound of bran; this is my limit for yearlings. They are kept in stable at night and in the field by day, always getting as much good new hay as they can eat at night. A little flaxseed may be given once a week only, after the first two weeks.

Now as to breeding, when about two years and nine months old, that is about the last week in January or first week in February, we take them into stable and tie them up for three hours each day for about two months to make their mouth. The time needed for this may be longer or shorter according to the way the horse works the bit. After the first month they are driven in long rein for two weeks, and then ridden for six weeks with a running rein. During this time they are taken across the country on a lead and taught to jump—"not ridden over fences"—and they are let out on grass in the month of May. They are brought into stable in August, taken to the cub hunting in September, and hunted in November—for one mile to three as they get strong during that season.

Mr. Thomas M. Carew: I try to have my foals born between the first week of April and the second week of May. Weaning is done about the end of September.

The first-winter foals are kept in at night, and are let out in the day. I give plenty of corn and a bran mash about twice a week. I usually break them in the spring at two years old, and give them plenty of jumping over fences.

Mr. Robert Downes: My foals are usually dropped from the 15th April to the 15th May, and I usually wean about 1st October. I train the foal for a week or so before weaning to eat oats while running with the dam. As a rule, two foals are put together, and left out night and day until the weather becomes severe, about Nov. 1st. I then house them at night in a large stable, and turn them out to grass every morning about 10 a.m. They are brought into the stable again about 4 p.m. I make it a rule never to keep a foal in the stable during the day time, no matter how severe the weather may be, but they

have good natural shelter on the land. I believe there would be far fewer whistlers and roarers if young horses were kept more in the open—at least in the day time. My foals get about 3lb of oats and about ½lb of linseed cake morning and evening during the winter. About 1st May I turn them out to grass night and day on good land, and do not give them any other food.

In my opinion, all horses intended for hunters should be broken in before they reach three years old. It is my practice to take a colt in before he reaches three years old, generally about March or April; when he is rising three make his mouth, ride him for about a fortnight, and turn him out to grass again about the middle of May. I then leave him on the grass until September or October, and at that date take him in again, and bring him to either foxhounds or harriers once a week, but do not keep him out too long until say February. By that time he will stand a fair day's wark with hounds. I find horses treated in this way can be sold as four-year-olds much more easily than if their breaking and training had been deferred till they were three off or rising four years. I believe one of the principal factors in the training of a young horse is to get him to understand that you are his friend. Once he gets to know that—and young horses are quick to learn—everything else comes easy to him.

Mr. W. J. FENNELL: As a rule the foaling period for hunters is April or May, but when thoroughbred I try to have them arrive earlier.

My foals are usually weaned when seven to eight months old. I believe in leaving foals with their dam as long as possible, as this enables them to grow better than any feeding can.

When weaned they generally get a little oats, etc., for their first winter. I much prefer leaving them altogether out of doors; but if delicate they are housed and let out by day in a paddock.

With regard to breaking, the horses are generally taken up in the spring of their fourth year, and by the cub-hunting in October are fit to begin their education. They are thoroughly ground-broken first, several months being spent at this before they are mounted, as I believe in taking time with a young hunter. I am quite aware this may be called slow training; but in this as in everything else if you want the finished article one must go slowly with highly bred young horses. The common article, in these days of large fields and ever increasing speed of hounds is well nigh useless; for never were shoulders, high courage and stamina more needed in the really high class hunter than to-day.

Mr. A. K. TYNDALL: I prefer the foals to be born in April if possible, but they should not be later than the middle of May if avoidable at all.

I wean them when between six and seven months old. I give the foals only grass when on their dams, but some time before weaning they receive a little oats and bran mixed. When I have determined to wean they are put in a shed in the field, one or two of them together, and kept shut up there for say three or four days, when they are let out with an ass or a quiet colt with them. They generally settle down in a few days.

For their first year I help them to as much hay as they can eat in the sheds and 2lb of a mixture of oats and bran in the morning and 2lb again in the evening, putting 1lb of bran to 3lb of oats. If I can manage it I also give the evening corn mixed in half a bucket of boiled turnips, as this puts them always in great health and condition. I let them go in and out of the sheds night and day as they like. I train in their fourth year in the summer as the men have more time then, and I sell as soon as they are steady under the saddle.

"AN OLD SUBSCRIBER," (Clonakilty): The foaling month in my stud varies, but is generally April. The usual age for weaning is about five months.

An old and very true saying is that the time to feed a foal is before it is born, or in other words that the brood mare should be well fed and cared while she is carrying the foal. I kegin when the animal is young by giving the foal cow's milk with warm water added, and also sugar, same temperature as new milk, and when a few months old I give fine oatmeal and bran moistened with milk, commencing with a small quantity and gradually increasing the amouet. During the winter they are given crushed oats, bran, good hay, a few carrots, and boiled flax seed occasionally, etc.

It is a matter of great importance to handle the foal at as early an age as possible. When a fortnight old a light leather headstall may be carefully put on, and a steady and careful man will soon get a foal to lead handily. When this has been accomplished, the youngster's first important lesson has been learnt. The real training commences at between three and four years old.

R.S.P.C.A. and Honorary Assistant Sanitary Inspectors."

We have been asked by the National Federation of Meat Traders to publish the following correspondence in connection with the recent appointment by the Sevenoaks District Council of an Honorary Assistant Sanitary Inspector:—

"The Clerk, Urban District Council,
Sevenoaks, Kent.
July 31st, 1909.

Sir,—My attention has been drawn to an extract from *The Sevenoaks Chronicle* reporting the appointment by your Council of an official of the Royal Society for the Prevention of Cruelty to Animals as 'Honorary Assistant Sanitary Inspector.'

I am accordingly directed by the Executive of this Federation to inform you that it is not within the power of your Council to make such an appointment, and to ask that the resolution in reference thereto may be rescinded, and the appointment cancelled. Otherwise, this Federation will be compelled to take the necessary steps to effectually protect the interests of the master butchers occupying private slaughterhouses within the jurisdiction of your Council.

I am to enclose you reports of a similar appointment made by the Malvern Urban District Council, and of an endeavour to make an appointment of the same nature in Worcester. You will note from these reports that at Malvern, as the result of representations submitted by this Federation, the appointment was cancelled, and at Worcester the appointment was not made for the reason that the Local Authorities mentioned had no power to make them.

I await the favour of your reply as early as may be convenient, and beg to remain, your obedient servant,
(Signed) WM. PAYNE, Secretary."

"The Clerk, Urban District Council,
Sevenoaks, Kent,
August 5th, 1909.

Sir,—Adverting to mine under date of 31st ulto., I beg to advise, the Executive of this Federation having obtained counsel's opinion, the master butchers occupying private slaughterhouses in Sevenoaks have been advised to *courteously, but firmly, refuse admittance upon their premises to the 'Honorary Assistant Sanitary Inspector' recently appointed.*

You will accordingly gather from the foregoing that if the Sevenoaks Urban District Council persist in their attempt to impose an unwarrantable injustice and vexa-

tious position upon traders engaged in a responsible business, conducted in all *bona fides*, this Federation will most strenuously oppose their action.

I beg to state that if any member of your Urban District Council is desirous of satisfying himself as to the absence of anything in the nature of cruelty in connection with slaughtering operations conducted in your district, I shall be most happy to arrange for permission for the master butchers to enable such member to completely satisfy himself by a personal visit to the slaughterhouses, and he will undertake further that no preparations whatever shall be made for such a visit, but that the usual mode of procedure shall be carried out.

I may add that the Executive of the Federation consider it most regrettable that the *bona fides* of responsible traders (who must of necessity conduct the operations of their business in such a manner as shall ensure the meat supply of the public, their customers, being presented in the best possible condition) should have been needlessly assailed by your District Council, and the whole power and influence of this Federation will accordingly be directed to protect the legitimate rights of those who are not only heavy ratepaying citizens, but are in common with all other purveyors, entitled to equitable treatment by their Local Authority.—I am, your obedient servant,

(Signed) WM. PAYNE, Secretary."

The following has been received by Mr. Payne :—

"Sevenoaks Urban District Council,
August 9th, 1909

Dear Sir,—I beg to acknowledge the receipt of your letter of the 5th inst., which, together with your letter of the 31st ulto., will be laid before the next meeting of the Council on the 7th prox., the Council being now on vacation.

The Honorary Assistant Sanitary Inspector has been written to, asking him not to make any visits to the slaughterhouses until your letters have been considered by the Council.—Yours faithfully,

(Signed) HERBERT J. THOMPSON.
Clerk to the Council.

Mr. Payne has also forwarded to each master butcher occupying a private slaughterhouse in Sevenoaks, a letter advising as follows :—

"The National Federation having obtained counsel's opinion on the matter is advised that any appointment of this nature by a local authority is illegal, and in your best interests you are urged to courteously, but firmly, refuse to permit this "Honorary Assistant Sanitary Inspector" to enter your private premises."—*The Meat Trades' Journal.*

The Board of Agriculture and Fisheries desire to remind all growers of potatoes that it is their duty under the Destructive Insects and Pests Order of 1908 to report all outbreaks of Warty Disease or Black Scab (*Chrysophlyctis endobiotica*) on their premises to the Board. The penalty for failing to report the disease is ten pounds. Certain British Colonies now require a certificate from the Board with every consignment of potatoes exported to them from this country, to the effect that the potatoes have been grown in a district not infected with this disease. Exporters who require further information can obtain it on application at the offices of the Board.

4, Whitehall Place, S.W.
August 17th.

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Parasitic Mange	Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Outbreaks.	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended Aug. 28		16	35			9	16		1	23	206
Corresponding week in	1908 ...	16	18			21	41		1	19	417
	1907 ...	16	26			18	35		4	44	108
	1906 ...	18	20			24	36		2	18	81
Total for 35 weeks, 1909		905	1211			377	1370		471	1249	10992
Corresponding period in	1908 ...	758	1013	3	112	566	1783		637	1471	8500
	1907 ...	750	992			628	1440		416	1823	8495
	1906 ...	620	908			763	1425		300	787	4420

Board of Agriculture and Fisheries, Aug. 31, 1909.

IRELAND. Week ended Aug. 21		...	...	...	...	...	...	...	...	2	114
Corresponding Week in	1908 ...	1	1	...	...	...	...	...	...	3	17
	1907 ...	...	...	...	...	...	...	2	...	5	44
	1906 ...	...	...	...	...	1	1	1	3	6	10
Total for 34 weeks, 1909		5	5	...	...	...	...	63	313	82	1453
Corresponding period in	1908 ...	6	9	...	...	...	...	31	272	130	2749
	1907 ...	1	3	...	...	4	8	62	189	98	1587
	1906 ...	3	7	...	...	6	14	67	159	74	830

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 25, 1909.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

PARLIAMENTARY.

In the House of Commons, on Thursday, Aug. 26:

Importation of Foreign Cattle.

Mr. Bowerman (Deptford, Lab.) asked the Secretary of State for Foreign Affairs whether any representations had been made lately by the Argentine, Danish, Dutch, Norwegian, or other Governments regarding the freedom of the flocks and herds of their respective countries from disease: whether any requests had been made by the Argentine or other Governments that the restrictions on the importation into Great Britain of animals from their respective countries for slaughter should be relaxed or removed: what replies thereto had been given by the Foreign Office: and whether he could lay any paper upon the table relating to the subject.

Mr. McKinnon Wood (Glasgow, St. Rollox, Min.), who replied, said:—A request has been received from the Argentine Government that the prohibition against the importation into this country of cattle from districts of the Argentine Republic unaffected by foot-and-mouth disease should be removed. In order that the matter may be considered, the Argentine Government have been asked to be good enough to furnish detailed information as to the steps taken either by the Federal or the Provincial Governments to deal with the suppression of the disease. A request has also been received from the Danish Government that live sheep from Iceland may be allowed to be imported into the United Kingdom. They have been informed that there is nothing to prevent importation, provided the sheep are slaughtered at the port of landing. No communications have been received from the Dutch or Norwegian Governments on the subject. In the circumstances I do not propose to lay any paper upon the table.

Mr. T. M. Healy (Louth, N., Nat.) asked whether he was right in thinking that the Foreign Office instead of the Board of Agriculture had taken upon itself to deal with this question of the importation of sheep and cattle from foreign countries; or did the Foreign Office first consult the Board of Agriculture? This was not a diplomatic matter, but an agricultural matter.

Mr. McKinnon Wood:—The Foreign Office is not dealing with it as a matter apart from the Board of Agriculture. The Board of Agriculture, of course, decides these questions on their merits.

Mr. T. M. Healy: Will the hon. gentleman make it clear that no concession of a diplomatic character will be made to these countries as against the interests of agriculture.

No answer was given.

Mr. Bowerman asked whether, in view of the difficulty of getting the Board of Agriculture to move in this matter, the Government would consider the propriety of removing the restrictions at present prevailing.

Mr. McKinnon Wood: That is certainly not a matter for the Foreign Office. (Hear, hear.)

Mr. Watt (Glasgow, College, Min.) asked why the Argentina was treated differently from the United States in this matter.

Mr. McKinnon Wood: I am not aware that Argentina is treated differently from the United States. The Argentine Government have made certain representations to us, and we have asked for certain information. The matter has not gone further than that.

The Argentine Minister in London has received a message from the Minister for Foreign Affairs stating that, as the result of thoroughly searching investigations throughout the country, the Argentine Government issued a decree on August 25 declaring that foot-and-mouth disease had completely disappeared.

REVIEWS.

The Standard Cyclopedia of Modern Agriculture and Rural Economy.—Edited by Prof. R. Patrick Wright, F.H.A.S., F.R.S.E. Vol. v. Duc—Fir. Pp. viij. + 256. Twenty-one plates (and many figures in the text). The Gresham Publishing Co., 34 Southampton Street, Strand, W.C.

The fifth volume of this series is now to hand, and is in no way inferior to its predecessors. Some of the subjects treated are amongst the most important which will be dealt with throughout the work, both to the student and the practical farmer. Between forty and fifty pages are occupied by a long and comprehensive article upon "Systems of Farming," and over twenty pages more are devoted to the important practical subject of "Fencing," the latter article rightly being very copiously illustrated. The treatment of agricultural education, fertility, and the fattening of farm animals, general articles upon the agriculture of England and Europe respectively, and a general *résumé* of entomology, are among the other more important features of the volume. Very many minor subjects are of course dealt with at less length; and the fact that the volume terminates with five lines upon the old Scotch dry measure, a "firlot," may be cited as an example of the endeavour which is being made to produce a truly encyclopedic work. The whole volume may be summarily described by saying that major and minor articles alike are generally marked by the same care in selection, judgment in the allotment of space, and skill in the accurate condensation of information, which have hitherto characterised the whole series.

W. R. C.

Cattle of Southern India.—By Lieut.-Col. W. D. Gunn, Supt. I.C.V.D., Madras (Dept. of Agric. Madras, Vol. iii. Bulletin No. 60). Royal 8vo., 66 pp., 67 photo-plates, cloth lettered.

This work is No. 60 of a series published by the Department of Agriculture, Madras, mostly on vegetable products, or their manufacture.

The book consists of a brief description of the breeds to be found in the Presidency, with their points, their uses, and many notes on the habits and management of the cattle. It it is illustrated with 67 plates, and shapes and names are alike strange to readers in England. Lieut.-Col. Gunn writes, in his early pages, "Madras is essentially a cattle-raising province, and consequently the animal wealth is enormous, but, as in other presidencies in India, large herds of village or mongrel cattle are to be met with everywhere. Many of them are worthless, being too weedy even to put into the lightest plough, and they are allowed to exist and eat the ration of the more profitable ones. Undoubtedly religious sentiment among the vast majority of the people is averse to destroying cattle, as among the Hindus the bull has always been considered to be sacred, and indeed is worshipped. A Hindu would consider it a most grievous sin to kill them, and utter pollution to partake of their flesh, yet he freely partakes of their milk." . . . . "The operations of ploughing, harrowing, sowing, and thinning the crop, of lifting water from wells for irrigation purposes are carried on almost entirely by bullock power. The crop when cut is removed to the threshing floor, and there trodden out by the cattle, and transported by them to the market; for the Indian cultivator his cattle constitute the life and soul of agriculture."

Again at p. 10 he says: "The attention of the British was first called to the excellence of the breed when it enabled Hyder Ali to march 100 miles in two days and a half to the relief of Chellumbrum, and after every defeat to draw off his guns in the face of the enemy; and when Tippu Sultan was enabled to cross the Penin-

sula of Southern India in one month for the recovery of Bednore, and to march 63 miles in two days before General Meadows." . . . . "Capt. Davidson, in a report on the Amrat Mahal cattle attached to the Bombay column of the English Army in Afghanistan in 1842, says :—'No draught cattle in either army were so efficient as the 230 Mysore bullocks which accompanied the Bombay troops to Afghanistan. It was entirely due to this very superior description of cattle that no part of the Bombay Park was required to be abandoned when the troops were returning to India over the almost impracticable roads through the Tirah Mountains. These cattle were frequently upwards of sixteen hours in yoke."

The buffaloes have a section to themselves. Col. Gunn says (p. 50): "These animals are very largely used where wet cultivation is in vogue. Although slow they are excellent workers, particularly in the ploughing of paddy fields and sugar mills." . . . . "They are good milkers, yielding daily from five to nine quarts of very rich milk. The milk has an unusually well flavoured taste. Beyond this they are put to no other use whatever."

The book is a convenient size, is clearly printed, and contains a quantity of information—not merely a list of names strung together, but made interesting by subsidiary details effectively used. The photo-plates are really illustrative.

Two Tales.

These were found on a page of *The Daily Telegraph* on Aug. 30 :—

TEETH-CLEANING FOR COWS.

"Sterilise the cow, and the milk will take care of itself." This theory inspired Mr. Kelsey, of the School of Experimental Farming in Cincinnati, owner of £15,000 worth of Jerseys, who declares, in a report published to-day, that he has largely increased the quantity and quality of his milk, because the cows are bathed every day, their teeth are cleaned with a brush three times daily, and during the hot weather the animals are protected by linen coats, which keep off the flies and mosquitos, and prevent them being worried.

New York, Saturday.

REMARKABLE SURGERY.

Doctor Doyen, who is now attending a scientific congress at Buda Pesth, is stated to have performed a marvellous operation before leaving. He succeeded, it is said, in grafting part of the vein of a sheep on a man's leg, to his own and the patient's satisfaction. He had previously performed an operation which was in itself successful on the patient in question, but soon afterwards he discovered that the circulation in a vein of the man's leg was insufficient, owing to the contraction of the vein. This brought on a big swelling in the leg, and Dr. Doyen judged that the only remedy was to renew the vein for a distance of about four inches. A live sheep was brought to the laboratory, and after being put under an anæsthetic its jugular vein was removed entirely, and a piece four inches long was grafted into the man's leg, replacing the contracted portion of the vein. The normal circulation of the blood was immediately re-established, and the joining began to heal rapidly. The swelling in the leg also disappeared soon after the operation had been completed.

Cruelty to Ponies.

At Thames Police Court, on Thursday, before Mr. Cluer, Richard Coleman and Arthur Houlden were charged with cruelty to two ponies.

It was stated that during the night one pony had died and that the other presented a pitiable appearance. It was very small, and although three years old was scarcely able to stand. The ponies had been imported from Spain and were intended for work in the English coal mines.

P.C. 116 H said that while in Cartwright Street he saw Coleman leading a dark brown pony which was unable to walk steadily. Houlden was leading the other pony, which was very poor, weak, and emaciated. Houlden said, "We have just taken them off the Steam Navigation boat at the Foreign and Colonial Wharf. They are very bad, but the other 49 are beauties." That pony had since died.

An inspector of police stated that the ponies, which were being forwarded to the North of England, had been shipped from Bordeaux.

On behalf of the defendants, Mr. C. E. Harwood, veterinary surgeon, stated that when the ponies were unloaded some were very weak, but they soon recovered. They had been suffering from partial suffocation, brought about by being packed in the hold of the vessel.

Mr. Cluer : And that is how these animals are brought over ?

The solicitor for the defendants said this was not a case of old horses. The condition of the ponies was brought about entirely by the heat.

Mr. Cluer : Then you must be more careful in dealing with them.

Coleman was fined 20s., and 21s. costs, and Houlden £5 and 21s. costs, or in default one month's imprisonment—*The Times.*

OBITUARY.

Maj. ROBT. FRANCIS FROST, A.V.S., M.R.C.V.S. (*retired*).
1 Greenmount Rd., Terenure, Dublin.
Graduated, Lond : April, 1870.

Maj. Frost died at his residence on August 28th from cerebral hæmorrhage. His age was 61 years.

CORRESPONDENCE.

ADVERTISING IN BRITISH COLUMBIA.

Dear Sir,

The enclosed cutting may be of interest to your readers, it being a sample of the way in which Canadian graduates advertise. The B.C. Veterinary Association is supposed to prohibit advertising, but in so far as *Canadian* graduates are concerned the Act is a dead letter.—Yours truly,

T. R. R. HOGGAN, M.R.C.V.S.

627 Howe St., Vancouver. B.C.
August 12.

[The newspaper received contained a whole page of illustrations and description of someone's canine infirmary. A dreadful advertisement.—ED.]

THE MIDLAND EXCURSION.—A CORRECTION.

Dear Sir,

I should be glad if you would correct error in last week's *Record* as regards the picnic given by the President of the Midland Counties Veterinary Medical Association. You have my name as host, it is a mistake, Mr. Trevor Spencer, of Kettering, was the host ; it was at his kindness we were all entertained.—Yours faithfully,

W. STANLEY CARLESS.

Worcester, Sep. 1.

[The names were printed as sent to us by the photographer. We regret the error.]

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. W. S. Carless, J. G. Bush, G. Howie.

Express and Star (Wolverhampton).